

On the Bermuda Humpbacked Whale of Dudley (*Balæna nodosa*, Bonnaterre, *Megaptera americana*, Gray, and *Megaptera bellicosa*, Cope). By Dr. J. E. GRAY, F.R.S. &c.

In the 'Proc. Amer. Phil. Soc.,' October 1870, Mr. Cope describes the skeleton of a humpbacked whale as *Megaptera bellicosa*, sent from St. Bartholomew, West Indies, to Philadelphia, and figures the upper part of the skull and various parts of the skeleton. It agrees with the northern *Megaptera longimana* in having a scapula without any processes; but differs in the form of the atlas vertebra, the nasals, and other parts of the skeleton. It is evidently a very distinct species.

The American whalers are now in the habit of catching humpbacked whales off the coast of San Domingo and in other parts of the Caribbean seas. "Dr. A. Goës, of St. Bartholomew, says that the whales appear about the island of St. Bartholomew about the beginning of March, or even in February, and remain until the end of May. In April and May it is said that they are seen in pairs standing vertically in the water. When they return they often come in a family of three, male, female, and young (the calf one or two years old). The bull is wild and more difficult to take than the female, and he has on two occasions smashed the boat of his pursuers to pieces. In June they are said to go further into the Mexican Gulf, and return eastward in the autumn; but they do not appear among the smaller Antilles at that time. Dr. Goës supposes that they pass the Straits of Florida, or follow the shores of the south main. He says that the whalers think they pass the middle of winter on the African coast; but this will require confirmation."

This whale is no doubt the same as the "Bunch or Humpbacked Whale" of Dudley (noticed, with an account of the method of taking it, in the 'Philosophical Transactions' for 1665), from Bermuda (where it lives from March to the end of May), on which Bonnaterre established *Balæna nodosa*, and is the *Megaptera americana* of Gray, 'Zool. Erebus and Terror,' pp. 17 & 52, of which *Megaptera bellicosa*, Cope, will be a synonym.

By a curious perversity Mr. Cope refers to the Bahia finner, but makes no reference to or comparison with the Bermuda humpback, though Dudley and Dr. Goës say that they inhabit the Caribbean seas at the same period of the year.

On some recent Remarks by Mr. Meldola upon Iphiclides Ajax* (*Papilio Ajax auct.*). By Mr. S. H. SCUDDER.

These remarks were made in connexion with investigations "on the amount of substance-waste undergone by insects in the pupal

* Ann. & Mag. Nat. Hist. xii. pp. 301-307 (Oct. 1873).

state." It was presumed *à priori* that, as there was gain of matter in the larval state and loss during the pupal, the size of an individual of any species "would be, *ceteris paribus*, inversely proportional to the ratio of the pupal to the larval period, or directly proportional to the ratio of the larval to the pupal period."

Mr. Meldola attempted to test this theory by tabulating the statements of Mr. Edwards concerning the duration of the stages in the different polymorphic forms of *Ajax*; and he found "that there was a relationship, but exactly the reverse of that which would be anticipated from the conclusions previously set forth."

The three forms of *Ajax* have been called by Mr. Edwards *Walshii*, *Telamonides*, and *Marcellus*; and these increase in size in regular ratio and succeed each other in season in this order. The following table represents the duration of the several stages, and is taken by Mr. Meldola from Mr. Edwards's work:—

	Eggs.	Larva.	Chrysalis.	Total.
<i>Walshii</i>	7-8 days.	22-29 days.	14 days.	43-51 days.
<i>Telamonides</i>	4-5 " "	15-18 " "	11-14 " "	30-36 " "
<i>Marcellus</i>	4-5 " "	12-19 " "	11-14 " "	27-38 " "

The next table is Mr. Meldola's attempted tabulation of the facts by which he comes to the above conclusion:—

Name of variety.	Ratio of mean pupal to mean larval period.	Ratio of mean larval to mean pupal period.	Mean expanse, ♂.
<i>Walshii</i>	$\frac{14}{25.5} = 0.549$	$\frac{25.5}{14} = 1.821$	inches. 2.70
<i>Telamonides</i> . . .	$\frac{12.5}{16.5} = 0.757$	$\frac{16.5}{12.5} = 1.320$	3.00
<i>Marcellus</i>	$\frac{12.5}{15.5} = 0.806$	$\frac{15.5}{12.5} = 1.240$	3.35

"It is here seen," says Mr. Meldola, "that the size of the variety is directly instead of inversely proportional to the ratio of the pupal to the larval period, and *vice versa*." Unfortunately for this conclusion the figures given by Mr. Edwards, or their reduction by Mr. Meldola, refer in each case to the *progeny* of *Walshii*, *Telamonides*, and *Marcellus*, and do not bear upon the question; in every instance given in the tables the progeny or resultant is *Marcellus*; *Walshii* and *Telamonides* are the produce of wintering chrysalids, and therefore by Mr. Meldola's rule should be, as they are, smaller than *Marcellus*, which, on the other hand, is always the result of short-lived summering chrysalids. Unless, however, some unknown factor plays a part, *Telamonides* should be smaller than *Walshii*, because produced later in the season from wintering chrysalids; but here the opposite is the truth.

Mr. Edwards apparently overlooked the fact that *Walshii* and

Telamonides belonged to the same brood; the former consists of earlier, the latter of later individuals from wintering chrysalids; the second brood of the species (the first from short-lived chrysalids) is *Marcellus*, and made up of the mingled progeny of both *Walshii* and *Telamonides*.—From an advance proof of the *Proceedings of the Boston Society of Natural History*, October 22, 1873.

The Habitat of Labaria hemisphærica.

By Dr. J. E. GRAY, F.R.S. &c.

In reply to Dr. Meyer's communication at p. 66, I see I am wrong in not giving Cebu as the habitat of these sponges; but as I received the box of sponges some time after I received the letter containing their habitat, although he said I should receive the two together, I had forgotten that the one referred to the other. I am astonished to observe that Dr. Meyer says, "I obtained these sponges from the reefs in the sea near the village Talisay," because the specimen of *Labaria* we received had, when dried, separated into two parts—a hemispherical sponge and a long tuft of broken spicules of *Euplectella*, tied at one end by a strip of a spotted silk handkerchief, which had been affixed into the base of the hemisphere! Dr. Meyer, in a letter of November 6th, 1873, says, "I wondered to hear that the largest one proved to be artificially made up; if I am not mistaken, I got still some specimens of the same kind, but they did not yet arrive in Europe." In a note just received (Jan. 21st) Dr. Meyer says:—"I looked through those bottles and dried several sponges. My Malay boy from Ternate was charged with this business, and perhaps he may have tied something together or done another mischief with them; or this may have been made by those fishermen at Talisay, I having overlooked it before I started, as I said, in a hurry."

On the Steppe-Cat of Bokhara (Chaus caudatus).

By Dr. J. E. GRAY, F.R.S. &c.

The Zoological Department of the British Museum has lately received the skin and skull of a *Chaus* from the steppes of Bokhara. It is very like the common jungle-cat (*Felis chaus*) from more southern Asia in the thickness and softness of the fur, in the general colouring, and in the tufts of the ears; but it differs from it in having a considerably longer tail, reaching nearly to the ground—hence its name *Chaus caudatus* in the description of it which has been read at the Zoological Society, illustrated by a beautiful figure by Mr. Wolf.